

U.S. Continuation Application of International Application No. PCT/AU02/01129
Title: MEASUREMENT OF AIR CHARACTERISTICS IN THE LOWER ATMOSPHERE
Preliminary Amendment

Remarks

This preliminary amendment is submitted for inclusion in the case prior to examination on the merits and computation of the fees. Applicant has amended the application to conform the headings to U.S. practice and provide the abstract on a separate page as appears on the attached appendix. In addition, applicant has amended the claims to eliminate multiple dependencies and to conform the application to U.S. claiming style. For example, in claims 1, 2, and 24, the parenthetical "(as herein understood)" has been replaced by a definition of "chirps" which finds support in the written description which appears at page 3, lines 21-22. Applicant submits that the changes are substantially matters of form which should not affect the indication of allowability for the claims as appears in the International Search Report.

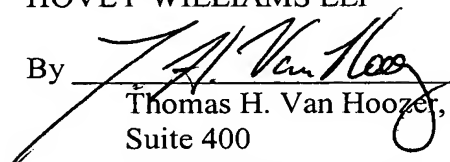
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In view of the favorable International Search Report and the amendments submitted herewith, applicant believes this application is now in condition for allowance and such is courteously solicited. Should the Examiner have any additional issues which may be resolved by a telephone conference, he is encouraged to contact the undersigned at 1-800-445-3460. Any additional fees necessitated by this submission may be charged to Deposit Account 19-0522.

Respectfully submitted,

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(Docket No. 34746)

Appendix

ABSTRACT

Sodar systems and methods for acoustically sounding air are disclosed in which chirps longer than 300 ms -- and preferably with durations of tens of seconds -- are used along with matched filter and/or Fourier processing methods to derive phase signals indicative of air characteristics in range. A listen-while-transmit strategy is preferred, the direct signal being removed by subtracting the phase signals from two or more receivers located near the transmitter so as to be in the same noise environment. The resultant differential signals can be related to cross-range wind with range distance. In one example, apparatus (100) is employed comprising a reflector dish (102) over which one central loudspeaker (110) and four microphones (112, 114, 130 and 132) are mounted, the microphones preferably being located on cardinal compass points and having their axes (124, 126) slightly angled with respect to the vertical transmission axis (122).